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book for Students and Practitioners. By EDWARD DAVIS, A. M., M.D., Adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital, etc., with One Hundred and Nineteen Engravings, Ninety-seven of which are Original. 8vo. Pp. XII, 481.

This book as indicated in its sub-title is practically a treatise on Ophthalmometry. Replete with illustrative cases showing the most accurate and the most certain of the methods that are employed by the author for the examination and correction of errors of refraction, it serves as an excellent clinical guide for both the beginner and the experienced practitioner in this particular line of ophthalmic practice.

Well written, devoid of confusing diagrams, and most comprehensive in its every detail, it can be safely asserted that the book is by far the best exposition of the value and the use of the ophthalmometer that we have in our possession at the present time.

Both the author and the publisher are to be congratulated upon the production of a valuable work.

C. A. O.

#### SCIENTIFIC JOURNALS AND ARTICLES.

*The Journal of Physical Chemistry*, January. 'On the Inversion of the Hepta- and Hexa-hydrates of Zinc Sulphate in the Clark Cell,' by H. C. Barnes; 'The Melting Point of Chloral Hydrate,' by C. G. L. Wolf. The conclusion is drawn that but one modification of chloral hydrate exists in the fused substance and that the observed differences in melting point are due to dissociation. 'The Relation of the Taste of Acid Salts to their Degree of Dissociation,' by Louis Kahlenberg. The author finds that the sour taste of solutions of acid salts is much stronger than would be accounted for by the theory that acid taste is due to free hydrogen ions. 'The Electro-Chemical Equivalent of Carbon,' by H. C. Pease. The value for carbon when anode in concentrated sulfuric acid has been already determined; the author finds the value in fused potassium hydroxid (that is in a Jaques' cell), to be three, as in the acid. Carbon in both these conditions is thus quadrivalent. In the February number: 'On the Emission and Absorption of Water Vapor

by Colloidal Matter,' by P. Duhem, an extended mathematical treatment of the subject. 'The Melting-point of Formyl-phenyl-acetic ether,' by C. G. L. Wolf. 'Freezing-point Curve for Water containing Hydrochloric Acid and Phenol,' by J. A. Emery and F. K. Cameron. The depression of the freezing-point of water by hydrochloric acid and phenol is in general an additive effect. 'Note on Bunsen's Ice Calorimeter,' by J. W. Mellor; preparation of an air free water and filling the calorimeter therewith.

IN *The Osprey* for March, Paul Bartsch continues his 'Birds of the Road' discussing those seen in February and March about Washington. Eugene S. Rolfe describes 'Some Trials of a Field Collector' and J. P. Norris discourses of the 'Eggs of the Sandhill Crane.' Under the caption 'Biographies of Ornithologists' Theodore Gill contributes a first installment of a welcome sketch of Swainson. The editor promises other biographies and in commenting upon the mercantile value of eggs makes some interesting remarks on the 'impulse to collect something' that seems inborn in man.

*The American Naturalist* for March opens with a paper by P. Calvin Mensch 'On the Life History of *Autolytus Cornutus* and Alternate Generation in Annelids' in which the author reaches the conclusion that in *Autolytus* we do not have a sexual generation alternating with an asexual, but a sexual dimorphism. Frank R. Lillie presents 'Some Notes on Regeneration and Regulation in Planarians,' and W. W. Norman has some 'Remarks on the San Marcos Salamander, *Typhlomolge orathbuni* Stejneger' which include some excellent figures of this little salamander. C. F. W. McClure writes 'On the Frequency of Abnormalities in Connection with the Postcaudal Vein and its Tributaries in the Domestic Cat (*Felis domestica*)' concluding that breeding experiments might give us some clue to their causes. J. A. Allen reviews 'The North American Jumping Mice' and L. Murbach treats of 'Fresh-Water Aquaria.' The Synopses of North American Invertebrates are continued by Harriet Richardson who discusses 'The Isopoda.' The balance of the number is devoted to numerous reviews of current literature.

THE plates for the April number of *Rhodora*, Journal of the New England Botanical Club, were destroyed in the recent fire at the Heintzemann press-rooms in Boston. The appearance of the April and May issues of *Rhodora* will necessarily be somewhat delayed.

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SOCIETIES AND ACADEMIES.

NEW YORK ACADEMY OF SCIENCES.

SECTION OF ASTRONOMY AND PHYSICS.

A MEETING of the Section was held on Monday evening, February 5th. Professor J. K. Rees presented a report on November meteors. Arrangements were made by the Columbia University observatory to observe and photograph the meteors during the week of November 12 to 18, 1899. At West Point, Dr. S. A. Mitchell, assisted by Messrs. Bauer and Jenkins, was provided with a Rowland concave grating and two cameras. No photographs however were obtained. At Bayport, L. I., Mr. C. A. Post had placed his observatory and his services at the disposal of the Columbia observatory staff. Six cameras and two telescopes were made use of. On one plate in a camera provided with a Goerz lens, a photograph taken on November 15th, between 16 h. 9 m. 30 sec., and 16 h. 40 m. 44 sec., when pointed near Procyon, showed a meteor trail. Dr. Elkins of the Yale observatory will measure this plate.

A number of students and others watched for the meteors for the purpose of counting them, at West Point, New York, and Bayport. At West Point, in about four hours on November 15th, 17 meteors were seen of which 12 were Leonids. In New York on the same evening, three observers counted 68 in about 5 hours. Two other observers counted 36 in  $2\frac{1}{2}$  hours. At Bayport, two observers counted 39 in about  $3\frac{1}{2}$  hours.

Professor Rees, observing casually while attending to the photographic apparatus at Bayport, observed a first magnitude Leonid at 15 h. 29 m., on November 15th, between the two lowest stars in the handle of the Dipper. At 15 h. 39 m., he observed another first magnitude Leonid under Sirius. At 17 h. 15.5 m. a fine Leonid trail, lasting 3 seconds, was seen over Procyon. At 17 h. 30 m. a very bright Geminid was seen  $20^{\circ}$  south of Regulus.

Professor Rees also presented a paper on the variation of latitude, and the constant of aberration of light, as determined from six and one-half year's observations made at the Columbia University latitude observatory. Observations of latitude were made at the new site of Columbia University from April 24, 1893, to the present time, and will be continued until May 1, 1900. The observers were Professors Rees and Jacoby, and Dr. H. S. Davis. A zenith telescope made by Waunscuff of Berlin, was employed throughout. Its aperture is 80 mm., and its focal length is one meter. Four groups of stars were used, having mean right ascensions of about 6 h., 14 h., 18 h., and 22 h. respectively. Each group contained seven stars. Up to the present time, 6518 pairs have been observed on 758 nights. From the observations, a curve was drawn showing the latitude. This was compared with the curve required by Dr. S. C. Chandler's formula (*Ast. Jour.*, No. 446). From 1896, the observed epochs of maxima and minima seem to follow the computed in time.

These observations give for the constant of aberration of light the value

$$20''.464 \pm 0''.006.$$

Mr. George H. Bauer read a paper on the parallax of  $\mu$  Cassiopeiæ and the positions of 56 neighboring stars, as deduced from the Rutherford photographic measures. This star has a large proper motion, and measurements of its parallax have been made by various methods and observers. The present determination is based on 28 Rutherford photographic plates, and the method of position angle was used in measuring them, as Professor Jacoby has already made a reduction using the method of distance. Eleven independent determinations were made giving a value of

$$0''.238 \pm 0''.014.$$

Professor Jacoby found by the method of distance  $0''.275 \pm 0''.024$ . These results agree even better than might have been expected. In forming the catalogue of 56 stars about  $\mu$  Cassiopeiæ, the usual corrections for refraction, precession, nutation, aberration, proper motion, etc., were applied. Since the co-ordinates were measured in distance and position angle, these were then converted into difference of right